

Mechanical Q & A 2006

Attention: ♣ Denotes a new question! 📄 Denotes a revised/revisited question.

October 2006

General:

1) (Q) *Does the Code require that hangers be placed a specific distance apart when installing line sets (AC/Refrigeration) and if so, what distance?*

(A) Section (table) 305.4 of the Mechanical Code states that “piping (1 ¼ inch and smaller) be supported every 6 feet horizontally and every 10 feet vertically.

2) (Q) *What does the term “grandfathered” mean?*

(A) The term refers to a system, appliance or installation, installed prior to state codes or under a previous version of the Code, but would be considered non Code compliant if installed today. Grandfathering is allowed with these stipulations:

- **There shall be no change in the occupancy use.**
- **The installation or appliance may not be disturbed, altered or replaced.**
- **The installation or appliance shall not be considered a “Life Safety Issue” by the Code Official.**

3) (Q) *Does the sealing of duct require a separate inspection?*

(A) This would be left up to the inspector on a case by case basis. The Code requires all duct seams to be sealed. The inspector will try to facilitate the progress of the job, but still reserve the right to inspect for sealing of seams.

4) (Q) *Is a mechanical permit required for a spray paint booth?*

(A) Yes. Mechanical permits are required for any gas supply and for the field installation of any exhaust duct systems exterior of the spray paint booth.

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5) (Q) *Do residential occupancies require a separate gas meter?*

(A) Yes! G.S. 143-151-42 requires a separate gas and power meter for residential occupancies with the exception of motels, hotels, dormitories, rooming houses, nursing homes or homes for the elderly.

6) (Q) *What are the licensing and permitting requirements for walk-in coolers or freezers?*

(A) No refrigeration permits or license is required to assemble the walk-in cooler/freezer box. Refrigeration permits and licensure would be required to install, mount or assemble any refrigeration equipment regardless of the type of electrical connection.

7) (Q) *Can piping (i.e. condensate, gas, etc.) cross equipment access catwalks?*

(A) Yes, provided it is protected (i.e., 2x4 each side, etc.)

8) ♣ (Q) *Will the State Board of Examiners of Plumbing, Heating, and Fire Sprinkler Contractors honor the Alternate materials, methods and equipment approval, (Section 105.2, 2006) that I applied for and received from the local Code Official?*

(A) Unfortunately, the Board doesn't seem to honor Code Section 105.2.

9) ♣ (Q) *May saddle valves be used for tapping into a water line to feed a humidifier?*

(A) No. The Plumbing Code specifically prohibits the use of saddle valves to make connections to potable water systems. The connection of humidifiers would require a plumbing permit. The replacement of existing humidifiers connected using a saddle valve will be grandfathered.

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Equipment:

1) (Q) *May EZ traps be used to meet the requirements found in 307.2.5 of the 2002 NC Mechanical Code?*

(A) Due to the approval by the ICC (see 2004 IMC Supplement), we would approve the EZ Trap as an alternative method, provided the installation meets the approved ICC requirement method 4 which reads:

A water level detection device shall be provided that will shut off the equipment served in the event that the primary drain is blocked. The device shall be installed in the primary drain line, the overflow drain line, or in the equipment-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan.

2) (Q) *May gas logs or other gas appliances be placed outside the building envelope (i.e. open covered deck, etc.)?*

(A) Not unless the appliance is LISTED and LABELED for exterior applications where the appliance would be subject to extreme temperatures and moisture.

3) (Q) *May auxiliary drains be manifold together and exit the structure with a single drain?*

(A) No!

4) (Q) *Is an exact equipment replacement project required to meet the current Code's equipment accessibility provisions?*

(A) Yes.

5) (Q) *May a gas water heater be installed in the same enclosure with a clothes dryer?*

(A) Yes, provided all the combustion air and make-up air requirements are met.

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6) (Q) *Do domestic clothes dryers (gas/electric) require make-up air?*

(A) Yes, unless the device exhausts 200 cfm or less. A typical closet with a clothes dryer exceeding 200 cfm., would require 100 sq. inches of make-up air for just the exhaust air. Combustion air for gas dryers would be an additional requirement.

7) (Q) *May direct fired heaters (no heat exchanger) be used to condition make up air?*

(A) Yes, provided you meet the stipulations found in section 610 of the NC Fuel Gas Code.

8) (Q) *What is the minimum height above the finish floor for space heaters installed in occupancies other than a garage?*

(A) There is no specified height other than a manufacturer's requirement.

9) (Q) *May secondary condensate drains terminate on a roof?*

(A) Yes, provided the termination is:

- **conspicuous (easily observable)**
- **not guttered where condensate would be directed from visual sight.**

10) (Q) *Why are field fabricated condensate traps for HVAC equipment not allowed?*

(A) They are allowed!

11) (Q) *Does the bath fan (motor & blade) have to be installed on a mechanical final inspection?*

(A) No! The motor and blade will be inspected by the electrical ` inspector.

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12) (Q) *Does the filter and floor registers have to be installed prior to final inspection?*

(A) The system/s including a permanently installed filter/s have to be installed prior to final inspection. The floor registers have to be “on site”.

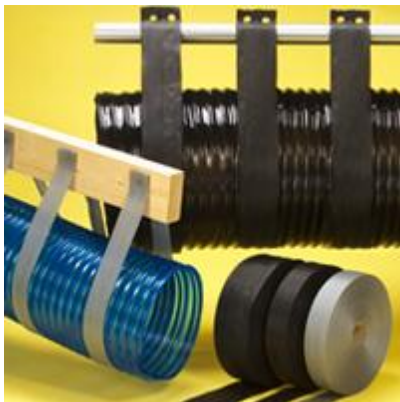
13) ♣ (Q) *Are auxiliary drains required in places other than attics?*

(A) Yes, section 307.2.3 requires auxiliary drains where damage to building components may occur as a result of overflow.

Duct:

1) (Q) *How should webbing material used for duct support, be attached to the structure?*

(A) The manufacturers I checked stated webbing material should be folded over creating a thicker tab and the strap attached with flat head nail through this tab.



2) (Q) *What type of duct tape is required in the assembly and sealing of joints in fibrous duct board?*

(A) You must use UL 181 a tape.

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- 3) (Q) *When panning a joist in residential applications, does the Code require the entire surface of the joists to be covered with metal, spackling, or duct sealing materials?*

(A) No! The Code would only require that joints and seams be sealed.

- 4) (Q) *Does make-up air duct require insulation?*

(A) Yes, if there is the possibility of condensation forming on the duct.

- 5) (Q) *When utilizing a stud cavity as a return in a residence, can the cavity return connect to a second floor as well as the ground floor?*

(A) No! Section 602.3 (#3) of the mechanical code would prohibit the use of a stud cavity communicating with more than one floor.

- 5) (Q) *When do we have to start using R8 insulation in the attic?*

(A) Officially, not until July 1, 2007 for structures using the Residential Building Code and January 1, 2007 for all other structures.

- 6) ♣ (Q) *What types of piping may be hung (supported) with webbing material?*

(A) It would be the webbing manufacturer's call (see cut sheet) what type of piping could be hung by their particular product. Typically it is limited to flex and duct board.

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Gas Pipe:

1) (Q) Do 2 lb. regulators have to be on the jobsite on **Final** inspection?

(A) Yes, for installed equipment. Lines supplied for “future” equipment would not require the regulators to be provided. Future lines would be properly “capped” (no cut-off). Pinched and soldered lines would not be allowed.

2) (Q) Is a drip leg (sediment trap) required for a gas regulator?

(A) No! Yes! A sediment trap would be required in front of the pressure regulators. 1) A single sediment trap could be utilized for both the regulator and its appliance when installed upstream. The regulator would need to be placed immediately at the appliance. 2) Whole house type regulators serving multiple appliances shall have sediment traps installed upstream and a tee connection downstream to check the pressure. Pressure drop may be checked at the appliance regulator on dedicated regulator installations.

Excerpt from the NC Fuel Gas Code:

410.2 MP regulators. MP pressure regulators shall comply with the following:

1. The MP regulator shall be approved and shall be suitable for the inlet and outlet gas pressures for the application.
2. The MP regulator shall maintain a reduced outlet pressure under lockup (no-flow) conditions.

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3. The capacity of the MP regulator, determined by published ratings of its manufacturer, shall be adequate to supply the appliances served.

4. The MP pressure regulator shall be provided with access. Where located indoors, the regulator shall be vented to the outdoors or shall be equipped with a leak-limiting device, in either case complying with 410.3.

5. A tee fitting with one opening capped or plugged shall be installed between the MP regulator and its upstream shutoff valve. Such tee fitting shall be positioned to allow connection of a pressure measuring instrument and to serve as a sediment trap.

6. A tee fitting with one opening capped or plugged shall be installed not less than 10 pipe diameters down stream of the MP regulator outlet. Such tee fitting shall be positioned to allow connection of a pressure measuring instrument.

We will begin to enforce the revised regulations September 1, 2006.

3) (Q) *How much black steel pipe must be used when piping a log lighter in a manufactured fire box?*

(A) Through the wall of the fire box, properly secured and supported or as required by the manufacturer (whichever is more stringent)

4) (Q) *How is CSST piping to be protected in building penetrations?*

(A) Per the manufacturer's installation instructions.

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5) ♣ (Q) *What type of labeling does section 401.7 of the NC Fuel Gas Code require for multiple meter identification?*

(A) First of all, it would exclude any marking such a paint pens, markers and indoor labeling devices. It would include non ferrous plates stamped or etched with the addresses. Other means may be submitted for prior approval.

Exhaust/Flue:

1) (Q) *What is the minimum flue height?*

(A) The minimum height is 5 feet measured vertically not linearly.

2) (Q) *Is a performance test required on a Type II hood?*

(A) No, just on a Type I hood, per DOI.

3) (Q) *What is the minimum and maximum height of “B” vent?*

(A) First, 503.6.7 of the NC Fuel Gas Code states 5', but we can't stop there. You also have to consult the tables (504) where the minimum length shows 6'.minimum with a maximum of 100'. The other alternative is to provide mfg. engineering data that supports lesser or greater lengths.

4) (Q) *May a StarKap be used with normal venting requirements?*

(A) Yes, provided you follow factory installation requirements. To use the StarKap to reduce clearances involves certain limitations.

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5) (Q) *How does a designer find out the required ventilation rate on a particular occupancy he/she is working on that is not listed in ventilation table 403.3?*

(A) Section 403.3 states: “Ventilation rates for occupancies not represented in Table 403.3 shall be determined by an approved engineering analysis.” This means the designer shall perform/develop or hire a third party to perform/develop an analysis of the occupancy; The Code Officials will review the proposal for approval. (Approval is at the discretion of the Code Official)